

Personnel

RESUME

K. Scott Wilson - GISE

ALLAN A. MYERS
GOV. PRINTZ INTERCEPTOR
CONTRACT 2010-01
REFERENCED SPEC. 2140
REVIEWED BY. *92*

Name: K. Scott Wilson

Education:

B.S. Civil/Structural Engineering

1994 Johns Hopkins University
Baltimore, MD

Currently Pursuing M.S. - Materials Science Engineering at Johns Hopkins University

Registrations/Certifications:

American Society of Non-Destructive Testing (ASNT) SNT-TC-1A

Ultrasonic Testing - Level III

Liquid Dye Penetrant Testing - Level III

Magnetic Particle Testing - Level III

Eddy Current Testing - Level III

Experience:

Geotechnical Instrumentation/Monitoring: Numerous types of geotechnical instrumentation have been performed including inclinometers, multi and single point borehole extensometers, tape extensometers, VW piezometers, settlement points/plates, railroad track profiling and monitoring, crack monitors, tiltmeters (plate and electrical), and strain gauges. Instrumentation installs have been accomplished on bridges, tunnels (micro and liner plate), roadways, amusement park rides, structures, and railroad tracks.

Vibration Analysis: Seismic monitoring and data analysis has been provided for many projects in both the public and private sectors. Responsibilities have included preconstruction surveys of properties adjacent to demolition/pile driving/ or blasting, supplying maximum allowable vibratory limits, frequency analysis, and public noise and vibration perception studies. Surveys were completed through the use of multiple forms of media to include photographs (digital and film), video, sketches, and audio narrative. Monitoring of induced vibrations was performed through the use of various models of seismographs. Development of project-specific equipment has been completed for several highly sensitive projects. These projects have involved vibration-sensitive computer data collection centers and banking centers which are affected by low amplitude vibrations. The systems designed consisted of PC based data acquisition devices with arrays of accelerometers which collected critical data and analyzed it for internal review. New programs are currently being implemented for clients to include Predictive Maintenance monitoring for large rotating equipment including printing presses, turbine engines, and large manufacturing processing facilities through the use of accelerometers and PC-based data analysis.

Non-Destructive Testing: Managed and supervised numerous projects requiring various methods of testing and analysis for bridges, buildings, and utilities. Programs were instituted for intermittent testing and monitoring of structures and tanks for the determination of deterioration rates and section loss due to environmental concerns. Weld inspections were conducted on critical connections for multi-story buildings through the use of ultrasonic, magnetic particle, and liquid dye penetrant testing. Additionally, state-of-the-art ultrasonic methods of non-destructive testing of composite materials such as concrete were used for the determination of crack extent/depth and to investigate the presence of voids within the materials.

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Construction Quality Control: Managed, budgeted, and supervised construction materials and testing services for hundreds of new residential and commercial construction projects. Services included inspection and testing of concrete and reinforcing steel placement, soil compaction, masonry, structural steel, asphalt pavement, caisson installation, and foundation bearing analyses.

Relevant Projects include the following:

WOODROW WILSON BRIDGE (MDSHA Contract PG5175173) (July 2003-August 2005) – Performed monitoring and instrumentation for the protection of the existing bridge during pile installation activities. Numerous instruments were utilized including inclinometers, piezometers, tiltmeters, seismographs, accelerometers, and optical monitoring devices. Mr. Wilson is the MDSHA approved GISE (Geotechnical Instrumentation Systems Engineer) for the project.

MARYLAND AVENUE BRANCH INTERCEPTOR (Balt City Contract #799) (July 2004 –July 2005) – Developed, installed and monitored various types of geotechnical/geophysical instrumentation on this project including multi-point borehole extensometers, inclinometers, piezometers, tape extensometers, optical monitoring, laser guided tunnel profiling, and optical monitoring of railroad tracks. Preconstruction surveys were also performed on all adjacent structures. This complicated project involved the installation of new utility piping adjacent to several structures and an historic railroad tunnel. The instruments were utilized to monitor the effects of microtunneling and open cut excavations on the surrounding structures and railroad tunnel.

WOODROW WILSON BRIDGE (MDSHA Contract PG3415173R) (July 2001-August 2002) – Performed monitoring and instrumentation for the protection of the existing bridge during pile installation activities. Land and water-borne instrumentation was installed at each existing piling location to monitor the bridge for movement and settlement in three planes. Numerous instruments were utilized including tiltmeters, seismographs, accelerometers, and optical monitoring devices.

ROUTE I-95 EMERGENCY SLOPE REPAIR (MDSHA) (November 2003-December 2003) – Provided consulting, installation, and monitoring of a severe slope failure adjacent to I-95 in Baltimore County. Equipment utilized included tiltmeters, piezometers, and optical surveying methods to monitor the slope failure and subsequent repairs to the slope.

CATHEDRAL STREET EMERGENCY SINKHOLE REPAIRS (Balt City Contract #SC834) – (August 2004–February 2005) – Consulted on this fast track emergency repair of a sinkhole that resulted from a broken sewer main. Services included vibration consulting and the monitoring of retention structures during the repair. Instrumentation included seismographs, tape extensometers, laser profiling, and optical surveying methods as well as preconstruction surveys on buildings.

MD ROUTE 43 EXTENDED – (MDSHA BA8475171) – (October 2003- Present) Ongoing consulting for this project included the performance of pre & post construction surveys, vibration monitoring, design and monitoring of piezometers and water level sensors.

NASD/NASDAQ HEADQUARTERS (Rockville, MD) (March 2000-May 2001) – A project specific accelerometer monitoring system was designed and built for this project. A data collection center for the NASDAQ Stock Market was subjected to ground-borne vibrations from adjacent construction activities. The data center mainframe computers had vibration-limiting devices that would force the system into an unproductive mode, costly for even minutes. The PC based monitoring system included

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an array of accelerometers attached to structural members of the building and to each of the main frames, a total of 96 accelerometers were installed throughout. Contractually, Mr. Wilson remained on-call 24 hours per day via a pager connected to the system for the immediate analysis of events. This monitoring system remained in place for a nine-month duration. Additionally, several seismographs and tilt meters were utilized to monitor particle velocities and movements on the structure.

BROAD CREEK BRIDGE REPLACEMENT (MDSHA) (Feb 1998-August 1998) - Performed numerous Preconstruction Surveys on dwellings adjacent to bridge demolition/implosion activities. Full time vibration monitoring was provided to protect the existing dwellings from damages during blasting and implosions.

I-695 WIDENING & RECONSTRUCTION (MDSHA) - BALT BELTWAY (NW) (August 1998 - Present) Preconstruction Surveys were performed on over one hundred dwellings surrounding the construction project. Intermittent vibration monitoring was performed during periods of heightened construction activities. Post construction surveys were conducted in each unit following the end of construction.

ROUTE 1 RECONSTRUCTION (MDSHA)- HYATTSVILLE, MD (Nov 1999-April 2000) - Numerous commercial structures and residential dwellings were evaluated using Pre & Post construction surveys. Vibration Monitoring was conducted during periods of heightened vibrations.

ROUTE 140 STREETScape (MDSHA)- Reisterstown, MD (Feb 1997-Nov 1998) - Sidewalks and roadways were replaced along this route during a streetscaping project. Over 150 Preconstruction Surveys were performed on units adjacent to the construction. Active vibration monitoring was necessary due to the close proximity of the structures to the construction. Postconstruction Surveys were performed following the completion of the project.

PEACHBOTTOM NUCLEAR POWER PLANT (Aug 1998-Dec 1998)- Performed vibration analysis during pile driving operations adjacent to nuclear reactors and related computer systems. Two separate monitoring systems were installed to include multiple seismographs and a PC based accelerometer system. The accelerometers were utilized to monitor the vibration sensitive computer system while the seismographs monitored the building structure and related components.

MBNA BANK HEADQUARTERS (Jan 1997 - Dec1997) - Mr. Wilson built a project specific accelerometer monitoring system for this project. A credit processing mainframe computer system was subjected to ground-borne vibrations from adjacent pile driving and explosive blasting operations. The computer had vibration sensors that, if triggered, would send the computers offline. The PC based monitoring system included an array of accelerometers attached to the main frames as well as the surrounding structures. An automatic dialing and alarm notification device attached to the PC would signal impending damaging vibrations so the pile driving operations could be temporarily suspended. This monitoring system remained in place for a six-month duration. Additionally, several seismographs were utilized to monitor particle velocities on the structure.

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SIX FLAGS AMERICA THEME PARK (Sept 1993 – Present) - Has staffed and managed the Quality Control program for this theme park for twelve years. The program consists of various methods of Non-Destructive Testing for the amusement park rides. Systems are currently being implemented wherein accelerometers are permanently installed to collect biodynamic data from several of the rollercoasters and amusement attractions.

BALTIMORE GAS & ELECTRIC CO. (Jan 1992 – Jan 1997) - Served as Blasting Consultant for this utility during five 1-year contracts. Provided monitoring and vibration measurement for all blasting and heavy construction activities adjacent to B.G. & E. structures and utilities. Blasting plans were compiled for the contractors at several of the projects.

JEFFERSON AND LINCOLN MEMORIALS (May 1991-April 1992)- Roof replacements and general renovations for each of these historic monuments were sensitive due to the historic nature of these monuments. Vibration monitoring devices were placed throughout the memorials, particularly along the ornate carved stone adorning the exterior. Mr. Wilson provided the contractor with maximum levels of vibration that may be caused by the demolition processes to prevent the possibility of further damages to the structures.

SEVERN RIVER BRIDGE Annapolis, Maryland (Sept 1990-Feb 1992) - Preconstruction surveys for surrounding structures were performed prior to the new bridge construction. Documentation and sketches of these existing conditions were utilized to monitor buildings for damage and/or movement during pile installations. Strategically placed seismographic monitoring equipment measured vibrations caused by the construction activities, the results of which provided direction as to methods and energies used by the pile contractor.

MCI COMMUNICATIONS (Sept 1994 – Sept 1995)- Vibrations caused by railway traffic were monitored and analyzed for possible damage to motion sensitive switching devices. Materials specifications were compiled and sensitivity ratings were applied. Vibration thresholds were compiled based upon information received by the manufacturers.

MARYLAND LIGHT RAIL (Phases I & II) (Sept 1996-Nov 1998) Timonium, MD - Managed and performed various methods of non-destructive testing on the rail track. Methods of testing included Ultrasonic, Magnetic Particle, and Brinell Hardness Testing. Calibrations consisted of Distance Amplitude Corrections (DAC) as required by the contract.

MARYLAND MASS TRANSIT AUTHORITY – (April 1989 – Sept 1989) Elevated Concrete subway rails were evaluated using ultrasonic pulse velocity testing for determining crack extent and depth. Further evaluations were conducted using fiber optic and borescope methods. Results were qualified using additional destructive testing methods.

WARREN ROAD BRIDGE – (Nov 1997-April 1998) Ultrasonic Testing of various critical bridge members was conducted to determine section loss of structural steel framing due to environmental exposure and corrosion.

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IRS HEADQUARTERS New Carrollton, MD (Jan 1993-April 1995)- Was successful bidder for this 1.2 million square foot, three structure, 9000 ton federal project. Scope of services provided on this project included materials testing (concrete, soil, structural steel, non-destructive evaluations), supervision, management, and contract negotiations through the federal government via construction manager.

POSTAL SQUARE Washington, D.C. (Nov 1991-Feb 1994) - Managed a complicated rehabilitation involving the addition and removal of structural steel members. Various methods of non-destructive testing were conducted including ultrasonic, magnetic particle, and liquid dye penetrant testing.

U.S. BUREAU OF PRINTING AND ENGRAVING (June 1989-Jan 1993)- An on going program was set-up for the client to provide intermittent ultrasonic thickness and corrosion testing for several full concentration acid storage tanks. This process extended tank life and met safety concern requirements.

Other notable projects include:

- FBI Headquarters - Washington, D.C.
- Pentagon Renovations - Washington, D.C.
- University of Maryland at Baltimore - Medical Biotech Institute - Baltimore, MD
- University of Maryland Medical Systems - Homer Gudelsky Building - Baltimore, MD
- Johns Hopkins Comprehensive Cancer Center
- Baltimore Ravens NFL Stadium
- Delaware Route 3 Bridge Replacement Project

Membership/Affiliations:

- American Society of Civil Engineers (ASCE)
- American Welding Society (AWS) - Associate
- American Society of Metals (ASM)
- American Society of Testing and Materials (ASTM)
- Member Committee F24 - Amusement Rides and Devices
- American Society For Non-Destructive Testing (ASNT)
- International Society of Explosives Engineers (ISEE)
- The Vibration Institute
- Washington Area Railway Engineering Society (W.A.R.E.S.)

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Personnel

RESUME

M. Keith Wilson - Field Technician

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RESUME**Name:** Michael Keith Wilson**Education:**

Bachelor of Arts	1987	University of Maryland College Park, MD
Principles/Mechanics of Ground Penetrating Radar	2000	GSSI, Inc. New Hampshire
Advanced Ultrasonics – Level IIB	2000	Krautkramer Branson Lewistown, PA
Eddy Current – Level II	2001	Hellier Technical Training Connecticut

Registrations/Certifications:

American Society of Non-Destructive Testing (ASNT) SNT-TC-1A
Ultrasonic Testing - Level II
Magnetic Particle Testing - Level II
Liquid Dye Penetrant Testing - Level II
Eddy Current Testing - Level II

Certified GPR Operator

Experience:

Non-Destructive Testing: Staffed and managed numerous projects requiring various methods of testing and analysis for bridges, buildings, utilities and amusement park rides. Weld inspections were conducted on critical connections for multi-story buildings through the use of ultrasonic, magnetic particle, and liquid dye penetrant testing.

Vibration Analysis: Seismic monitoring and data analysis has been provided for many projects in both the public and private sectors. Responsibilities have included preconstruction surveys of properties adjacent to demolition/pile driving/ or blasting, supplying maximum allowable vibratory limits, frequency analysis, and public noise and vibration perception studies. Monitoring of induced vibrations was performed through the use of various models of seismographs. Has assisted in the development of project-specific equipment for several highly sensitive projects. These projects have involved vibration-sensitive computer data collection centers and banking centers which are affected by low amplitude vibrations. The systems designed consisted of PC based data acquisition devices with arrays of accelerometers which collected critical data and analyzed it for internal review. New programs are currently being implemented for clients to include Predictive Maintenance monitoring for large rotating equipment including printing presses, turbine engines, and large manufacturing processing facilities through the use of accelerometers and PC-based data analysis.

Relevant Projects include the following:

NASD/NASDAQ HEADQUARTERS (Rockville, MD) – Assisted in the fabrication and installation of an accelerometer system used to protect a data collection center for the NASDAQ Stock Market. The PC based monitoring system included an array of accelerometers attached to structural members of the building and to each of the main frames, a total of 96 accelerometers were installed throughout.

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Additionally, several scismographs and tilt meters were utilized to monitor particle velocities and movements on the structure.

WOODROW WILSON BRIDGE (Prince George's County, MD) (July 2001-August 2002) – Performed monitoring and instrumentation for the protection of the existing bridge during pile installation activities. Numerous instruments were utilized including tiltmeters, scismographs, and optical monitoring devices.

MARYLAND MARC TRAIN LINE - FREDERICK, MD - Performed various methods of non-destructive testing on the rail track. Methods of testing included Ultrasonic and Magnetic Particle. Calibrations consisted of Distance Amplitude Corrections (DAC) as required by the contract.

MARYLAND LIGHT RAIL – Baltimore, MD – Numerous welds were tested non-destructively in the Howard Street track repair project. Methods included magnetic particle and ultrasonic methods. Calibrations were providing using DAC methods.

SIX FLAGS AMERICA THEME PARK - Has performed NDT pursuant to the Quality Control program for this theme park for four years. The program consists of various methods of Non-Destructive Testing for the amusement park rides. Systems are currently being implemented wherein accelerometers are permanently installed to collect biodynamic data from several of the roller coasters and amusement attractions.

BETHLEHEM STEEL – Sparrows Point, MD – Performed various types of non-destructive testing during the rehabilitation of the blast furnace and related crane system.

MORGAN STATE UNIVERSITY FINE ARTS BUILDING – Towson, MD. – Was responsible for conducting non-destructive testing for hundreds of full penetration welds. Methods included ultrasonic, magnetic particle, and dye penetrant testing.

WILMINGTON MANOR GARDENS (Wilmington, DE) – Provided vibration monitoring of numerous commercial and residential dwellings during adjacent pile driving operations. Pre and Post Construction surveys were conducted on several structures for the purpose of delineating the effects of the vibrations onto the buildings.

UNIVERSITY OF DELAWARE (Dover, DE) – Managed the vibratory monitoring of multi-story structures and transmission antennae during adjacent sheet pile installations. Several methods of pile installations were necessary to protect the structures from damage.

O STREET RETAINING WALL RECONSTRUCTION (Washington, D.C.) – Provided Pre and Post Construction surveys for numerous structures during the reconstruction of a dilapidated forty-foot high retaining wall. Intermittent vibration monitoring was performed on this project throughout the duration.

ROUTE 1 RECONSTRUCTION (MDSHA)– HYATTSVILLE, MD – Numerous commercial structures and residential dwellings were evaluated using Pre & Post construction surveys. Vibration Monitoring was conducted during periods of heightened vibrations.

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BOND STREET RECONSTRUCTION (MDSHA)- BELAIR, MD - Numerous commercial structures and residential dwellings were evaluated using Pre & Post construction surveys. Vibration Monitoring was conducted during periods of heightened vibrations.

Membership/Affiliations:

American Welding Society (AWS) - Associate
American Society of Metals (ASM)
American Society of Testing and Materials (ASTM)
American Society For Non-Destructive Testing (ASNT)
International Society of Explosives Engineers (ISEE)

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Edwin Williams

RESUME

Personnel

EDWIN F. WILLIAMS
COT Project and Lab Manager

Years of Experience:

GTA: 10

Education:

University of Delaware,
B.S. Environmental Science
and Geology, 2007

Certifications:

Nuclear Gauge Certification
40 hour OSHA Certification
NICET Level I- Soils, Asphalt,
Concrete
NICET Level II- Laboratory
NICET Level III- Construction,
Exploration
State of Delaware CCR #4238
WACEL Foundation Inspector
PTI Level I

Professional Affiliations:
American Society of Civil
Engineers

American Concrete Institute



**GEO-TECHNOLOGY
ASSOCIATES, INC.**

**GEO-TECHNOLOGY
ASSOCIATES, INC.**

Qualifications:

As a Project Manager with Geo-Technology Associates, Inc., Mr. Williams is responsible for providing training and project management on several jobs for several technicians. His management responsibilities consist of reviewing daily field reports, drafting engineering reports, troubleshooting field issues, coordinating jobs and technicians. In addition, Mr. Williams provides sophisticated inspections in the field and laboratory including structural steel, masonry and concrete observations, deep foundation systems, soil stabilization, and observation of subsurface explorations including test borings/test pits, and is proficient in laboratory testing following ASTM and AASHTO standards.

As lab manager Mr. Williams is responsible for review and compilation of laboratory test results, review of budgets and billing, training of personnel, purchase and maintenance of equipment and conduction of in-house quality assurance/quality control programs to ensure lab proficiency with ASTM standards.

Some of Mr. Williams's recent experience providing construction-monitoring services includes the following:

Cecil County Drudge Pond, Cecil County, Maryland- Provided soils testing and analysis for a 15 acre dredge storage pond.

Delaware Department of Transportation Materials and Research Facility, Dover, Delaware- Performed soils and concrete testing, foundation and steel inspections for the new 32,000 square foot Materials and Research facility.

CIBA, New Castle County, Delaware- Provided sub-surface exploration for the additions to an existing warehouse. The exploration consisted of drilling SPT borings, in level C personal protection, over a Superfund Site.

Dwyer Chevrolet, Wilmington, Delaware- Performed construction observations for driven pipe piles through a capped brownfield site for the used car lot. Provided caisson and foundation inspections, soils testing, soil stabilization recommendations, rebar and post tensioning inspection, and concrete testing for a 4-story parking garage and service center.

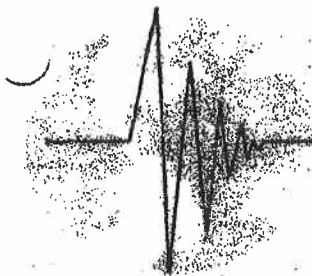
Newark Free Library, Newark, Delaware- Provided sub-surface exploration and single ring infiltrometer testing for building addition and sub-surface (SWM) facility

Laver Property, Delaware County, Pennsylvania- Provided soil testing and provided soil stabilization recommendations in the field using geotextile fabric.

Legends of Frog Hollow, Middletown, Delaware- Resident Inspector for new residential development. Provided foundation inspection, soils testing and analysis, and underground tunnel construction observation. Also provide residential foundation inspections for the 200 home subdivision.

LABORATORY CURR RESUMES EDWIN WILLIAMS RESUME.DOC

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Equipment/Details

ATTACHMENT A

Deep Benchmark

Acker Drill Rig
Curb Box/Grout Mix

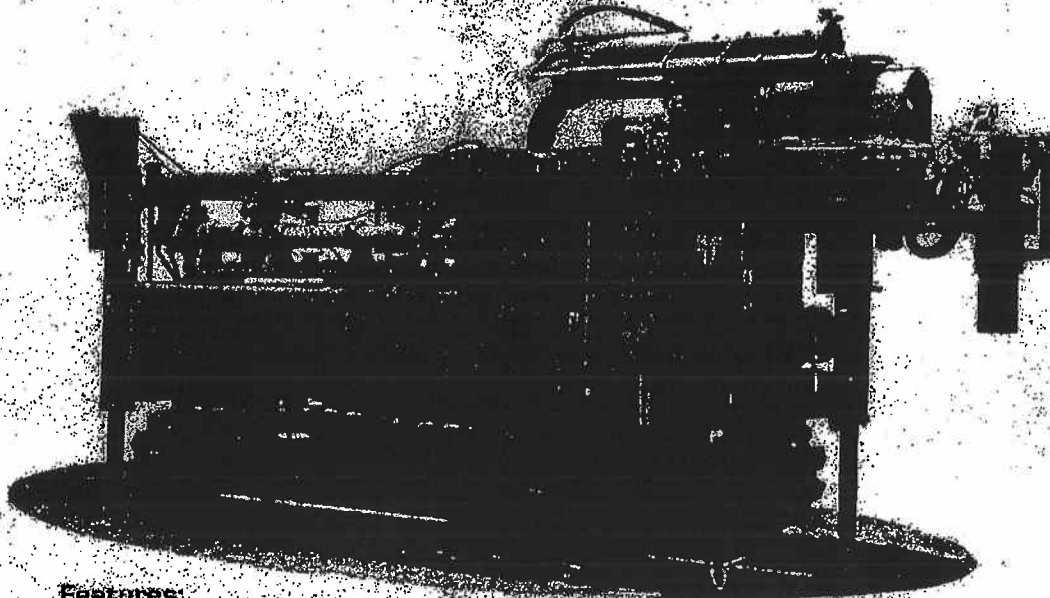
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Bulletin 44

acker
DRILL COMPANY

Featuring the
acker SOIL-XLS
 All-Hydraulic, High-Torque
 Drill Rig

The SOIL-XLS is specifically designed for fast and economical soil investigation, ground water monitoring or core drilling with multiple mast positions for easy access in difficult terrain.

**Features:**

- Coring 1740 ft. (520 m) W Wireline
- 8500 ft. (2590 m) Mast
- 8 Speeds W 8 REV to 1000 RPM
- Spindle Torque 5000 ft. lbs. (6780 Nm)
- 8 ft. (2.4 m) Stroke
- Automatic Chuck/Automatic Hammer
- 10000 lbs. (45360 kg) Pull/Thrust
- Hydraulically Driven Engine Leveler
- Latest Skid Design
- Mast Torqueing 5 ft. (1.5 m) Dump Feature
- Radio Remote Control for Trimming

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 DRILL COMPANY

P.O. Box 830 Scranton, PA 18501 USA
 Tel/Fax: 800/522-2537 Fax: 570-586-2659
 E-Mail: sales@ackerdrill.com Website: www.ackerdrill.com

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Bulletin 44**acker**
DRILL COMPANY**SOIL-XLS STANDARD FEATURES:**

- A. Power Unit - 37 H.P. diesel engine with 12-volt electric start, hydraulically adjustable for constant operation on a 45 degree slope. Other power options available on request.
- B. Feed Mechanism - The main feed consists of double acting cylinder drive mechanism connected to a hydraulic cylinder with 72" stroke and capable of 11,000 pounds upward thrust and 11,000 pounds pull down. Feed speeds are 0-72 FPM up and down.
- C. Drill Drives - Taken from pump motor through a pressure compensated piston pump and single fixed volume gear pump.
- D1. (4) Speed Drill Head - 3-5/8" Open Spindle.
1st gear (0-68 RPM @ 5,000 ft/lbs. torque) 2nd gear (0-184 RPM @ 2,918 ft/lbs. torque)
3rd gear (0-340 RPM @ 1,297 ft/lbs. torque) 4th gear (0-554 RPM @ 754 ft/lbs. torque)
- D2. (8) Speed Drill Head - 3-5/8" Open Spindle.
1st gear (0-20 RPM @ 3,028 ft/lbs. torque) 2nd gear (0-262 RPM @ 1,482 ft/lbs. torque)
3rd gear (0-454 RPM @ 788 ft/lbs. torque) 4th gear (0-900 RPM @ 458 ft/lbs. torque)
Two (2) speed hydraulic motor option up to 1,000 RPM in high range.
- E. Mast - Welded rectangular structural steel tube construction that supports and guides the rotation of feed components. Positioned with one (1) hydraulic cylinder and rigidly held in the vertical position for drilling and is lowered to the travel position for moving from hole to hole and includes mast extension to allow for 10 ft. rod pulls. Mast mounting allows for angle as well as 90 degree vertical drilling. Also includes mast dump for 50 inches. Mast also includes crown block with sheaves.
- F. Slide Head - 12" drill head movement.
- G. Drill Frame - All welded steel construction supports the power unit, mast, control panel, winches and cathead.
- H. Auger Guide
- I1. Track Mounting - The entire drill is mounted on a structural steel frame and is propelled by high quality crawler tracks with independent reversible hydraulic motor drive. Full function radio remote control and pendant control operations with emergency shutdown.
- I2. Mounting - The entire drill is mounted on a structural steel truck, skid, trailer, skid or ATV mounted.

SOIL-XLS OPTIONAL FEATURES:

- 1. Cathead Hoist - Hydraulically powered cargo type hoist, 10" diameter.
- 2. Auxiliary Hoist - 2,500 lb. or 4,500 lb. planetary type with 75 ft. of 5/16" cable.
- 3. Main Driven Hoist - 8,500 lb. planetary type with 180 ft. of 5/8" cable. Includes rapid reverse. (Recommended for skid unit to move under its own power.)
- 4. Quick Disconnect Adapter - U-Joint type for augers, 1-5/8" hex or 2" hex or right type for rod/casing (specify size).
- 5. 2" Swivel - For air, mud or water. Attaches directly to the top of the spindle.
- 6. Water Pump - Hydraulically driven Triplex Type 20-35 GPM with infinitely variable controls from the operator's station. Moyno Type 3L6, 3L8 or equal.
- 7. Wireline Hoist - Hydraulic powered used for wireline core drilling. 1,000 ft. of 1/8" cable. Lifting capacity is 800 lbs. or 2,500 lbs. auxiliary winch.
- 8. Front Winch - Hydraulically driven, front-mounted with 20,000 lb. capacity.
- 9. Low Clearance Sheave Block Assembly - For use with cathead operation in low ceiling situations (requires removal of main crown block).
- 10. Auger Rack
- 11. Water Tank
- 12. Automatic Chuck

Contact factory for additional details. A complete line of optional accessories are available.

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DRILL COMPANY

P.O. Box 830, Scranton, PA 18501

Toll Free: 800.752.2537 Fax: 570.586.2659

E-Mail: sales@ackerdill.com Website: www.ackerdill.com

Policy: The policy of Acker Drill Co., Inc. being one of continual improvement, we reserve the right to change design or materials at any time, without giving notice or creating any obligation to previous or future customers.

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The Most Complete Line of UST/AST Products!

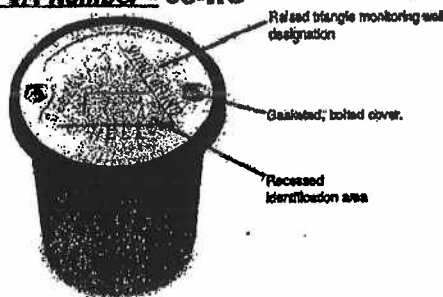
MONITORING WELL MANHOLES

ROUND CAST BOLTED MANHOLE

Application -

Applications where limited access and maximum security is needed.

Part Number - 65-WC



UNIVERSAL Advantage

Only from Universal - Raised triangle monitoring well designation. Clearly marked cast iron cover with monitoring well designation in accordance with API-RP-1615. Recessed I.D. wrap allows information such as - date installed, depth etc. with an optional I.D. plate.

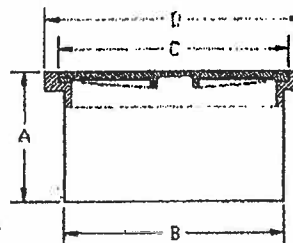
Features -

- ✓ White polymeric coated cover for non-corrosion
- ✓ 2 flush mount stainless steel bolts for added security and limited access
- ✓ Gasketed for water and contamination protection
- ✓ Carries H-20 load rating

Construction -

- Cast iron cover and ring
- 2 flush mount stainless steel bolts
- Galvanized steel skirt
- Buna-N gasket
- Heavy-duty cast iron ring and cover
- Polymeric coating

Model	Size	Weight (lbs.)	A	B	C	D
65-8075-WC	8" x 7-1/2"	11.4	9-1/2"	8-1/4"	8-3/8"	9-1/2"
65-8012-WC	8" x 12"	16.5	13-3/8"	8-1/4"	8-3/8"	9-1/2"
65-1212-WC	12" x 12"	30.5	13-3/8"	12-1/4"	12-3/8"	13-1/2"
65-1280-WC	12" x 8"	26.5	8-3/8"	12-1/4"	12-3/4"	13-1/2"



Replacement Parts

Part Number	Description	Part Number	Description
1300-248	Pop Rivet	65-12-G	12" Gasket
60-12-C3	12" x 6" Skirt	65-8012-A1	8" Ring only
60-8-C3	8" x 6" Skirt	65-8012-CO	8" Cover only
65-1212-A2	12" Ring only	65-8-C1	8" x 12" Skirt
65-1212-CO	12" Cover only	65-8-G	8" Gasket
65-12-C2	12" x 12" Skirt	65-BT	Bolt

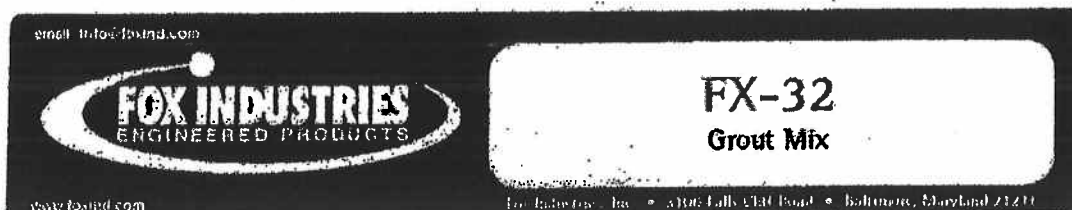
Universal Valve Co. products used in accordance with applicable federal, state, and local regulations. Product selection should be based on physical specifications and installation and compliance with the environment and material to be handled. Universal Valve Co. makes no warranty of fitness for particular use. All limitations and specifications for size, materials and based on the latest product literature available at the time of publication. Prices, materials, and specifications are subject to change at any time, and model may be discontinued at any time, in which case, select selling or supplier.

UNIVERSAL VALVE COMPANY

478 Schiller Street, Elizabeth, NJ 07208 • (800) 223-0741 • (908) 351-0600 • Fax: (908) 351-0369 • universalvalve.com

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ALLAN A. MYERS
GOV. PRINTZ INTERCEPTOR
CONTRACT 2010-01
REFERENCED SPEC. 2140
REVIEWED BY. *gl*

**DESCRIPTION:**

FX-32 Grout Mix is a specifically formulated mixture of portland cement, fine aggregates, and additives. FX-32 Grout Mix, when blended with coarse aggregate and mixed with water, provides a durable, low shrink concrete.

WHERE TO USE:

Use where small quantities of concrete are required: making tank mix too costly. Use to make sidewalks, steps, footings, piers, etc.

PHYSICAL PROPERTIES:

Meets or exceeds the requirements of ASTM C-387

Grout - Compressive Strength (ASTM C-109)

24 hours	4,000 psi
7 days	6,700 psi

Concrete - Compressive Strength (ASTM C-39)

24 hours	3,600 psi
28 days	7,000 psi

Initial Set approximately 2 hrs. @ 70°F

MIXING:

Grout - Blend 1 - 50 lb. bag of FX-32 Grout Mix with approximately 3/4 gallon of potable water. Add additional water to bring to desired consistency and place. 120 ounces of water will equal or exceed the test results shown above.

Concrete - Blend 1 - 50 lb. bag of FX-32 Grout Mix with approximately 30 lbs. of coarse aggregate (about 1/2 of five gallon bucket) and 3/4 gallon of potable water. Add additional water to bring to desired consistency and place. 1 gallon of water will equal or exceed the test results shown above. As water is increased, strength will decrease; therefore use only as much water as is required to place and finish the concrete.

YIELD:

Grout 1 - 50 lb. bag when mixed will yield approximately 0.42 cubic feet of grout.

Concrete - 1.50 lb bag when mixed with 30 lb. of coarse aggregate will yield approximately 0.65 cubic feet of concrete.

PACKAGING:

50 lb. multiwall waterproof bag

CAUTION:

WARNING! Contains Free Silica & Portland Cement. Do not breathe dust. May cause delayed lung injury (silicosis). Follow OSHA safety and health standards for crystalline silica (quartz). Cement powder or freshly-mixed concrete, grout or mortar may cause skin injury. Avoid contact with skin and wash exposed skin areas promptly with water. If any cement powder or mixture gets into the eyes, rinse immediately and repeatedly with water and get prompt medical attention.

FOR INDUSTRIAL USE ONLY. KEEP AWAY FROM CHILDREN. 8/2006

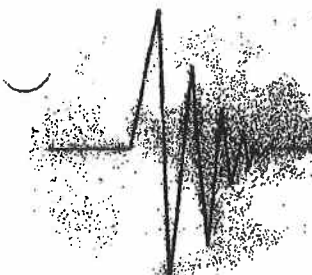
PHONE 410-243-8856

TOLL FREE 888-760-0369

FAX 410-243-2701

Warranty: We warrant our materials to be of good quality and will replace any materials proved defective. We believe that the technical information provided is reliable and that materials will perform to your satisfaction. However, we cannot guarantee final results because of the many possible variations in field conditions and application procedures.

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Equipment/Details

ATTACHMENT A

Surface Settlement Markers

1/4" Double Expansion Anchors

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CONTRACT 2010-01
REFERENCED SPEC. 2140
REVIEWED BY. *JK*



Product Listing, Sizing and Specifications

Double Expansion Anchors

Zamac 7 Alloy

Catalog Number	Anchor Size	ANSI BK Size	Clearance Hole	Sleeve Length	Minimum Embedment	Quantities Box / Case	Ultimate Holding *
49-35-1600	1 1/8"	1 1/2"	5/16"	1"	1 1/4"	50 / 500	2,340 lbs.
49-35-2400	3/8"	3/4"	7/16"	1-9/16"	1-3/4"	50 / 250	4,990 lbs.
49-35-4030	5/8"	1"	1 1/8"	2-1/8"	2-1/2"	25 / 100	13,900 lbs.

* Ultimate Holding - The figures stated are for comparative purposes, to help in anchor selection only. Ultimate load limits should be prepared by a registered design professional where required by codes of the jurisdiction in which the project is being constructed.

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Equipment

ATTACHMENT A

Geosonics 3000LC Seismograph

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CONTRACT 2010-01
REFERENCED SPEC. 2140
REVIEWED BY. *AK*

SSU 3000LC

The SSU 3000LC is a convenient, easy to use and complete vibration and sound monitoring system designed with the user in mind. Key features include an enhanced tactile keypad, heavy-duty twist-lock metal cable connectors and a heavy-gauge aluminum enclosure with baked-enamel finish. The four-line, 20-character LCD and menu-driven programming makes on-site setup easy and permits the user to view numerical waveform data and monitoring results in the field. The timesaving template utility can store repetitive setup information for quickly deployed instruments with pre-defined configurations. The internal lead-acid battery is long lasting and easily charged using the included AC adapter. An integrated timer turns the unit on and off at pre-selected times to conserve battery power. The 2-hertz, high-pass microphone and all other accessories fit easily into the tough, structural-resin carrying case.

The SSU 3000LC has three recording modes: 1) triggered - either seismic or sound, 2) continuous (histogram) and 3) sustained trigger. The internal memory can store up to 220, 1-second events. Sustained trigger mode delays processing and permits collection of consecutive 15-second intervals of waveform data up to a cumulative total of approximately 4.2 minutes. Data can be collected in either Imperial (US customary) or metric units. The included basic compliance software package can be used for data analysis and preparation of standard or customized reports.

GeoSonics® is a leader in seismograph innovation, design, manufacturing and vibration consulting. Because we use the equipment we design, a user-friendly interface, ruggedness and reliability are not just goals - they are standards.

GeoSonics®...always a step ahead!

Features & Specifications

STANDARD FEATURES:

- External geophone meets ISE density recommendations.
- Four-line by 20-character LCD and 16-key alphanumeric keypad for on-site setup and data display.
- Heavy-gauge aluminum case & baked enamel finish.
- Heavy-duty twist-lock metal cable connectors.
- Internal, rechargeable lead acid battery.
- External LED indicators for charging & recording status.
- Flexible interface for custom configurations.
- Two (2) independent joystick alarm output ports.

GENERAL:

- Weight (With Case) 44.7 lbs (6.7 kg)
- Dimensions (With Case) 12.3 in x 13.6 in x 5.0 in (31.7 cm x 34.3 cm x 12.7 cm)
- Weight (Without Case) 4.5 lbs (2.1 kg)
- Dimensions (Without Case) 8.7 in x 7.0 in x 3.6 in (22.1 cm x 17.8 cm x 9.2 cm)
- Operating Temperature: 0 to 130° F (-18 to 54° C).
- One (1) year warranty on parts and labor.

RECORDING MODES:

- | | |
|--------------------------------|--|
| Seismic Trigger: | Resolution: 0.0025 in/sec. (0.06 mm/sec.); |
| | Range: Up to 5,120 in/sec. (130 mm/sec.) (other ranges available). |
| | Frequency Response Range: 2 to 250 Hz (3 dB) / 2 to 1,000 Hz (1/2 octave). |
| | Sampling Rate: Up to 2,000 / second / channel. |
| | Recording Interval: 1 to 15 seconds. |
| | Accuracy: 5% within one year (multi-frequency calibrated). |
| | Calibration: Internal dynamic. |
| Sound Trigger: | Range (Linear): 78 to 142 dB (other ranges available). |
| | Frequency Range (3 dB): 2 to 250 Hz (3 dB) / 2 to 1,000 Hz (1/2 octave). |
| | Accuracy: ±10% or 1dB within one year (multi-frequency calibrated). |
| | Calibration: Internal electronic. |
| Continuous (Histogram): | Vibration Data: Peak particle velocity and frequency for L, T & V. |
| | Recording Interval: Selectable: 1 to 80 seconds. |
| | Sound Data (Linear): 78 to 142 dB (other ranges available). |
| Sustained Trigger: | Multiple Event Recording: Consecutive waveform recordings up to 4.2 minutes. |

STANDARD FEATURES (Continued):

- PC serial port interface for downloading events data.
- Up to 220, 1-second waveform data recordings (up to 50, 5-second waveform data recordings).
- GPS acquisition feature (NEMA 108 compatible).
- Six (6) template locations for recording set up data.
- Imperial and metric operation.
- Basic compliance reporting software package included.
- Designed & manufactured in the USA.

OPTIONAL ACCESSORIES:

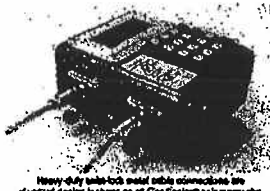
- Hydrophones (instrument modifications required).
- Accelerometers to 50 g's or higher (instrument modifications required).
- Amplifiers (10x-100x).
- Optically isolated dual alarm control for dialers, pagers and remote alarm notifications.
- Advanced seismic analysis software package.
- Extended warranties & service contracts.
- Numerous custom configurations - call for details.



Early accessible solid state for internal communications. LEDs show data recording status. External control supply port. In-line fuse for internal shock protection.



Instrument connection ports are standard with steps to protect connecting pins when not in use.



Heavy-duty twist-lock metal cable connectors are standard design feature on all GeoSonics® seismographs.



P.O. Box 588
Warrendale, PA 15086
Ph. 800-892-0395 Fax 724-834-2889
www.geosonics.com

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60V. PRINTZ INTERCEPTOR
CONTRACT 2010-01
REFERENCED SPEC. 2140
REVIEWED BY. *JK*

GOVERNOR PRINTZ INTERCEPTORS – SECTION I RESPONSE ACTION PLAN

The following Response Action Plan is in correlation with identification of alerts as referenced in specification section 2140 – Geotechnical & Structural Monitoring Instrumentation.

The Project Team members responsible for this Plan are as follows and in the order of emergency contact:

Jessie Ceglowski – Project Manager	(610)960-0358 Cell	(610)873-0792 Home
Doug Parsons – Project Superintendent	(443)250-6875 Cell	(610)838-6316 Home
Rick Tisa – General Superintendent	(410)808-4283 Cell	

1. All site equipment will be left onsite. The operating personnel are on call for any site emergencies. Personnel will be rotated for off hours based on availability.
2. Any structural issues will be reviewed by Earth Engineering, Jay McKelvey, to determine the proper course of action as agreed to by Parsons Brinckerhoff, New Castle County and/or DelDot as necessary.
3. Contingency plans can not be fully identified until the specific circumstances can be reviewed

I. LEVEL 1 ALERT THRESHOLD RESPONSE

1. AAM Project Manager will notify Robby McDonald immediately upon receiving any indication of movement above the following:

- | | |
|--------------------------------|-----------|
| a. Surface Settlement markers | .375 inch |
| b. Inclinator Casing Movements | N/A |
| c. Tiltmeter Plates | N/A |
| d. Crack Monitoring Pin | N/A |
| e. Seismographs | N/A |

2. Engineer and AAM Project Manager will determine the likely cause of movement and determine if ceasing the work activity is necessary.

II. LEVEL 2 UPSET LIMITING RESPONSE

1. AAM Project Manager will notify Robby McDonald immediately if any of the monitoring instrumentation exceeds the following movement:

- | | |
|--------------------------------|----------------------------------|
| a. Surface Settlement Markers | .5 inch |
| b. Inclinator Casing Movements | N/A |
| c. Tiltmeter Plates | N/A |
| d. Crack Monitoring Pins | N/A |
| e. Seismographs | See note below regarding Level 2 |

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CONTRACT 2010-01
REFERENCED SPEC. 02140
REVIEWED BY. 

2. Any operation that is deemed by the Engineer to have caused the movement will cease immediately.
3. Any areas found to be unstable in regard to groundwater or structural integrity will be stabilized immediately.

RESPONSE ACTION PLAN SPECIFIC TO GAS MAIN RISK:

Based on TJA's calculations, it is anticipated that the peak particle velocity will be above the Level 2 threshold of 2.0 ips at the closest pipeline. Based on our understanding of the condition of the gas mains, this vibration level will not cause any damage. Therefore, AAM is requesting to waive the Level 2 threshold alert for seismograph monitoring that is listed in the specification.

AAM will not be authorized by either Delmarva or Linde to operate any valves onsite. We have been instructed to contact the following representatives in case of emergency and they will provide immediate gas flow restriction:

Delmarva Gas – 24" High Pressure Main

1. Call 911 immediately.
2. Call Delmarva Emergency Leak Hotline at (302) 454-0317. Delmarva indicated that the Fire Marshall would dictate an evacuation radius if necessary. In the event that the Fire Marshall does not dictate an evacuation radius for damage, AAM will evacuate all residences and traffic within 500' of the damage.

Linde – Oxygen and Nitrogen

Linde will be notified as to the daily blast schedule so their control room will be on alert at the time of blasting. In the event of a rupture:

1. Call Linde Control Room at (302)798-6836 to shut off flow.
2. Call 911.

All traffic, personnel and pedestrians will be evacuated 500' away from rupture until damage and remediation is assessed.

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REFERENCED SPEC. 02140
REVIEWED BY. 

EARTH ENGINEERING INCORPORATED
 Geotechnical Engineers & Geologists
 115 W. Germantown Pike
 East Harton, PA 19401
 (610) 277-0830
 FAX (610) 277-0878
 www.earthengineering.com

FLUSH MOUNT DEEP SETTLEMENT MARKER

GOVERNOR PRINTZ INTERCEPTORS

PREPARED FOR

NEW CASTLE COUNTY DELAWARE

Scale: N.T.S.

Date: 5/20/2011

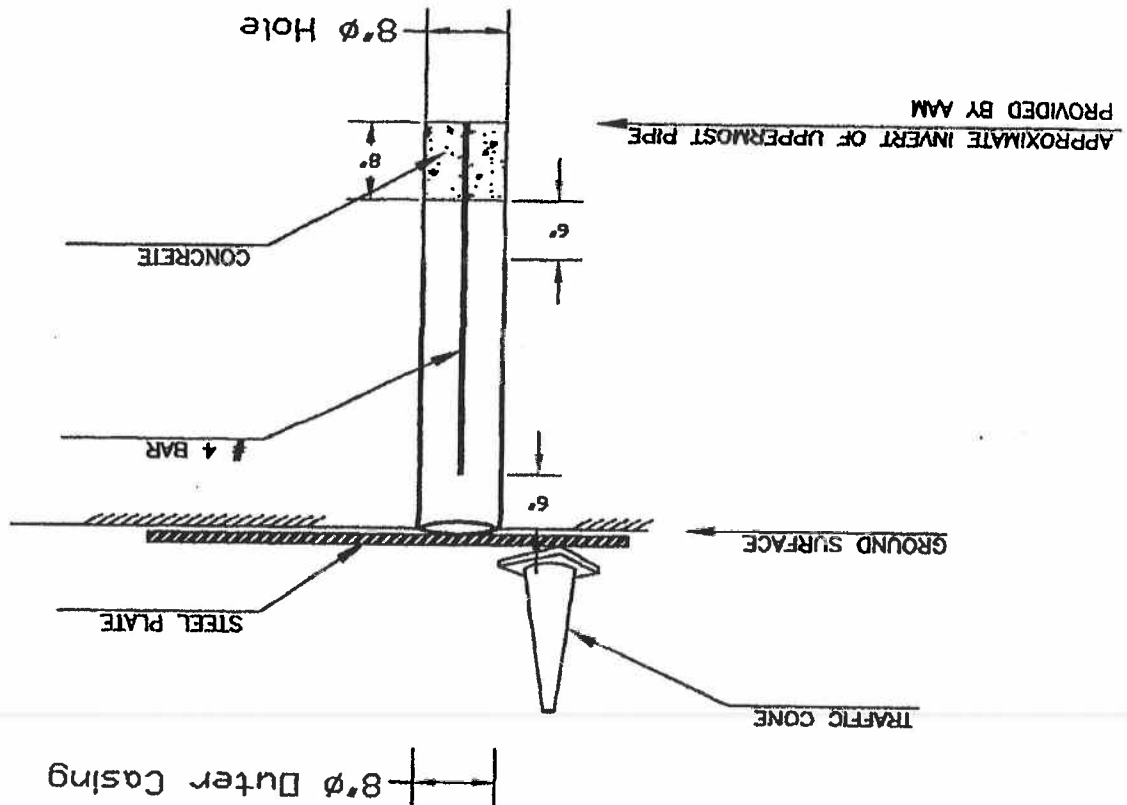
Drawn By: C.J.G.

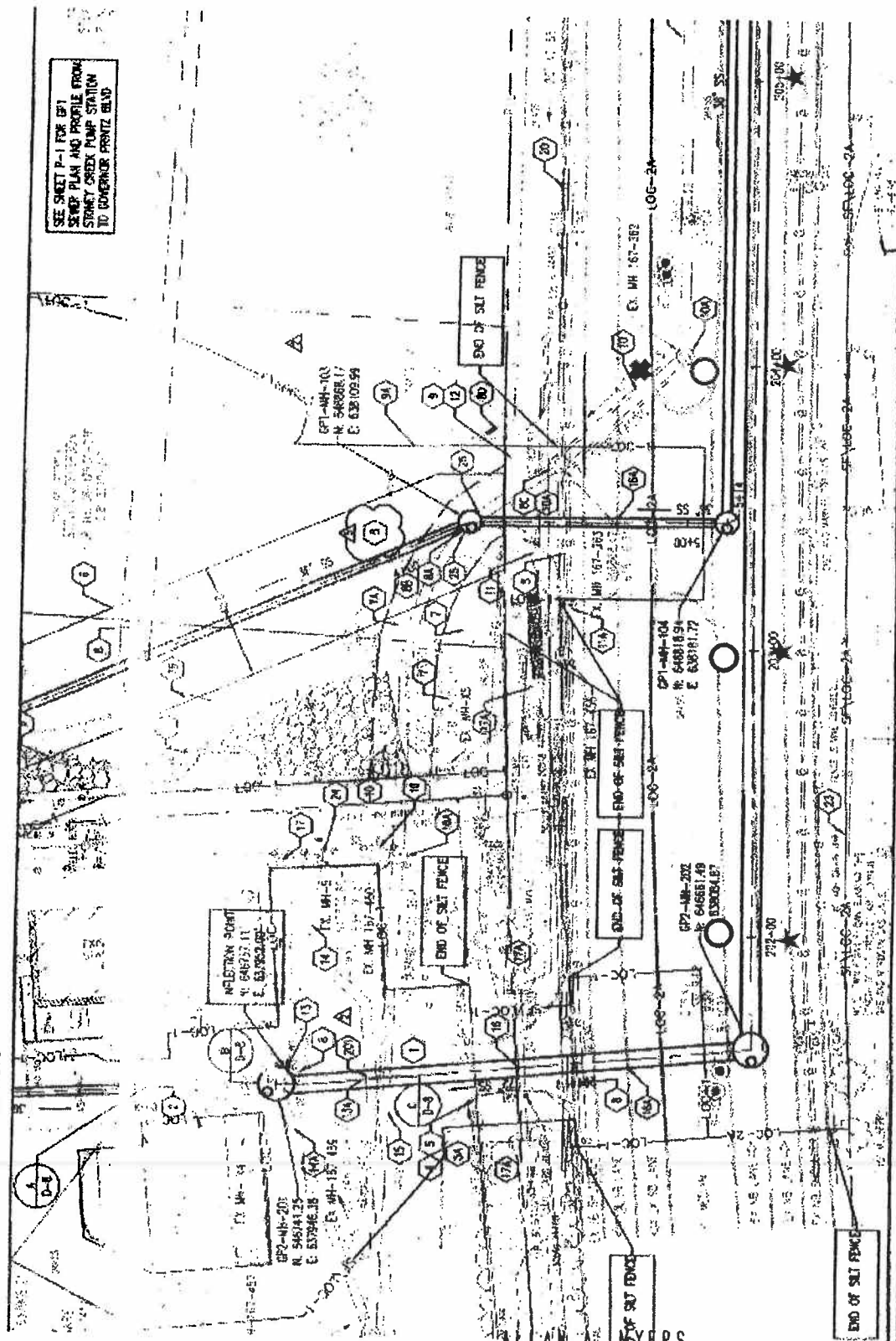
Approved By: J.A.M.

Drawing Number: 24508.00-A-103

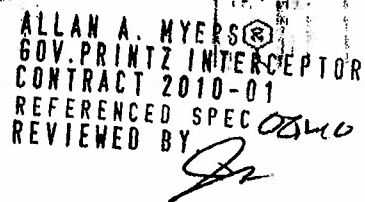
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 CONTRACT 2010-01
 REFERENCED SPEC. 02140
 REVIEWED BY [Signature]
 05/20/11

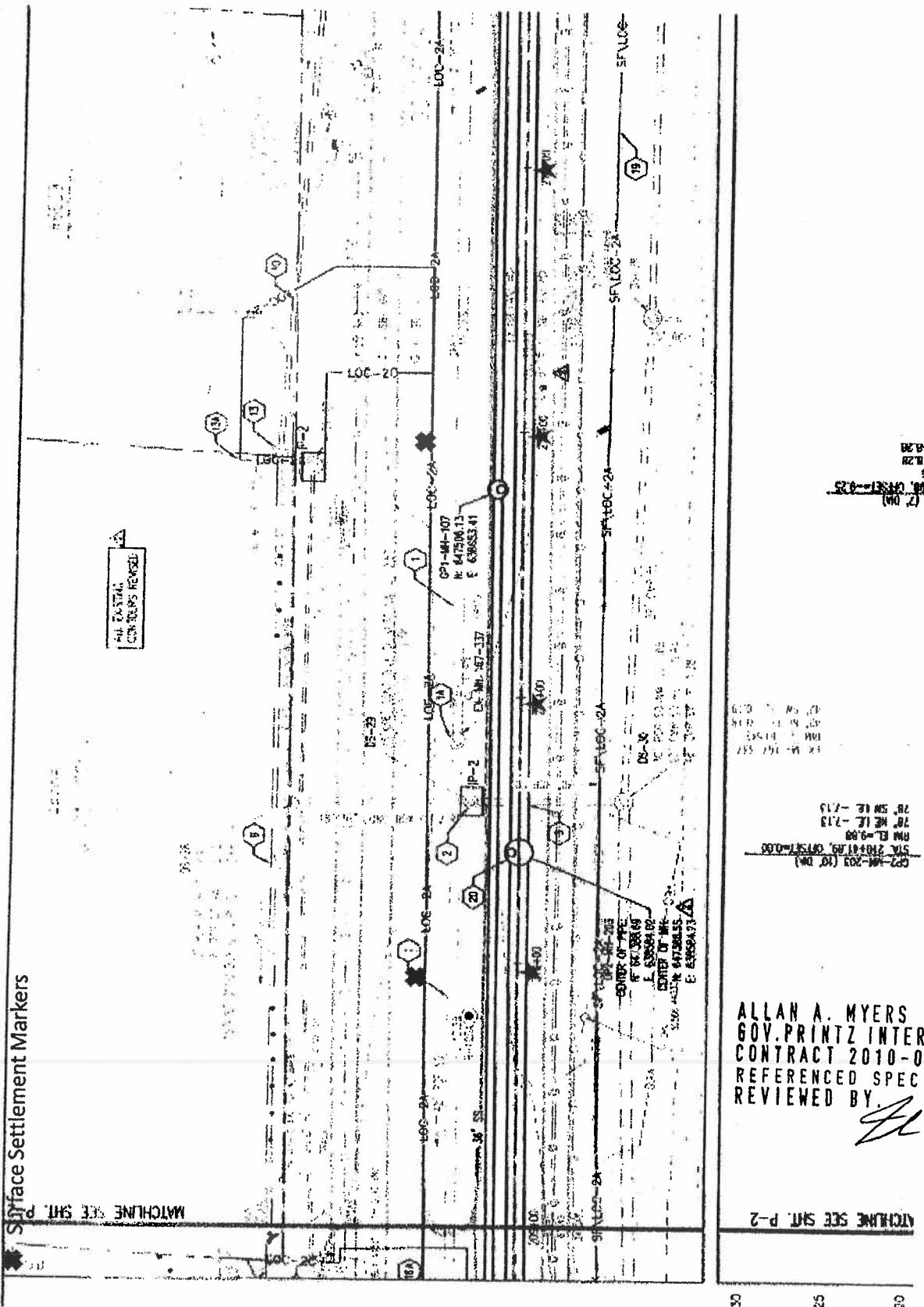




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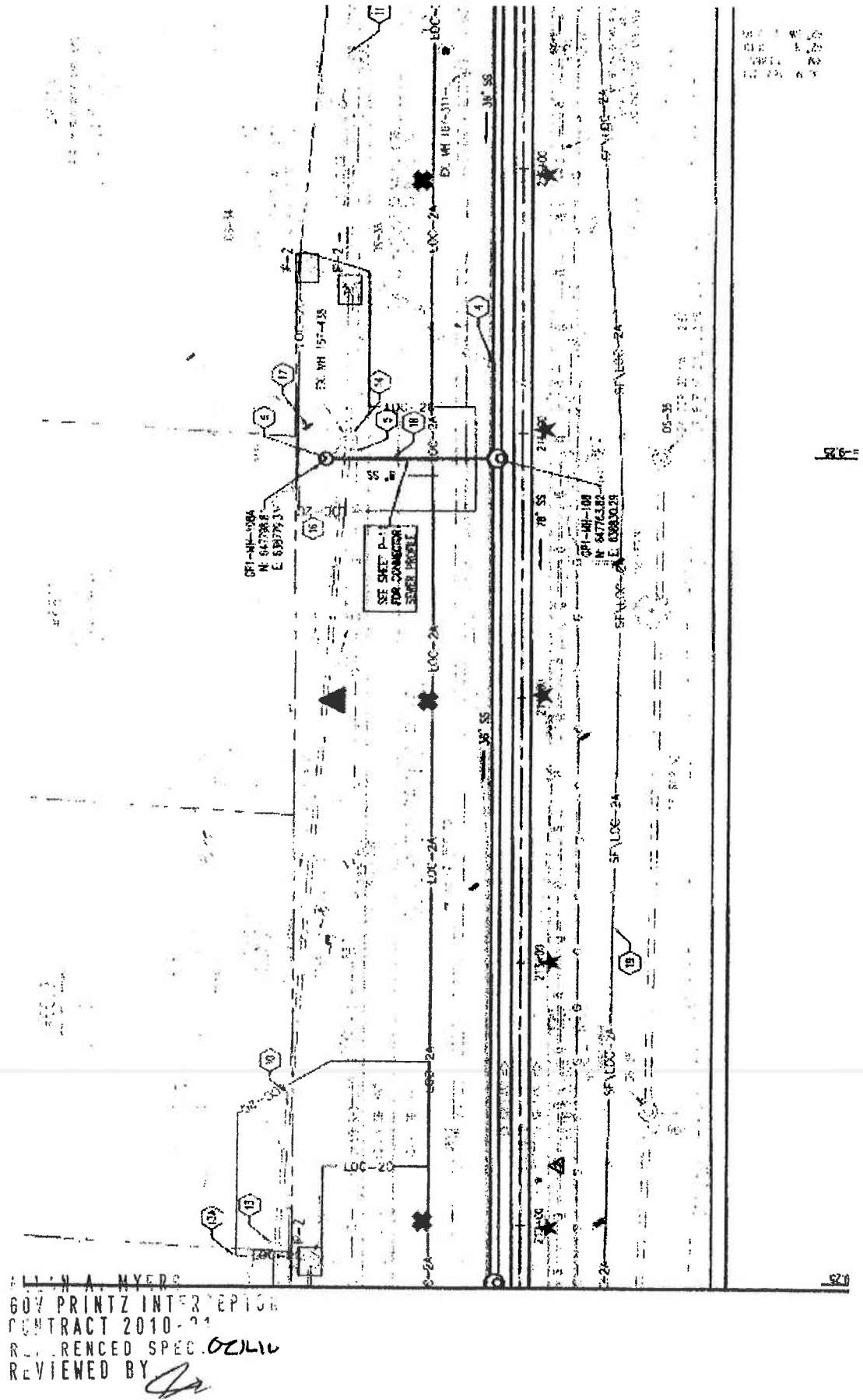


Surface Settlement Markers

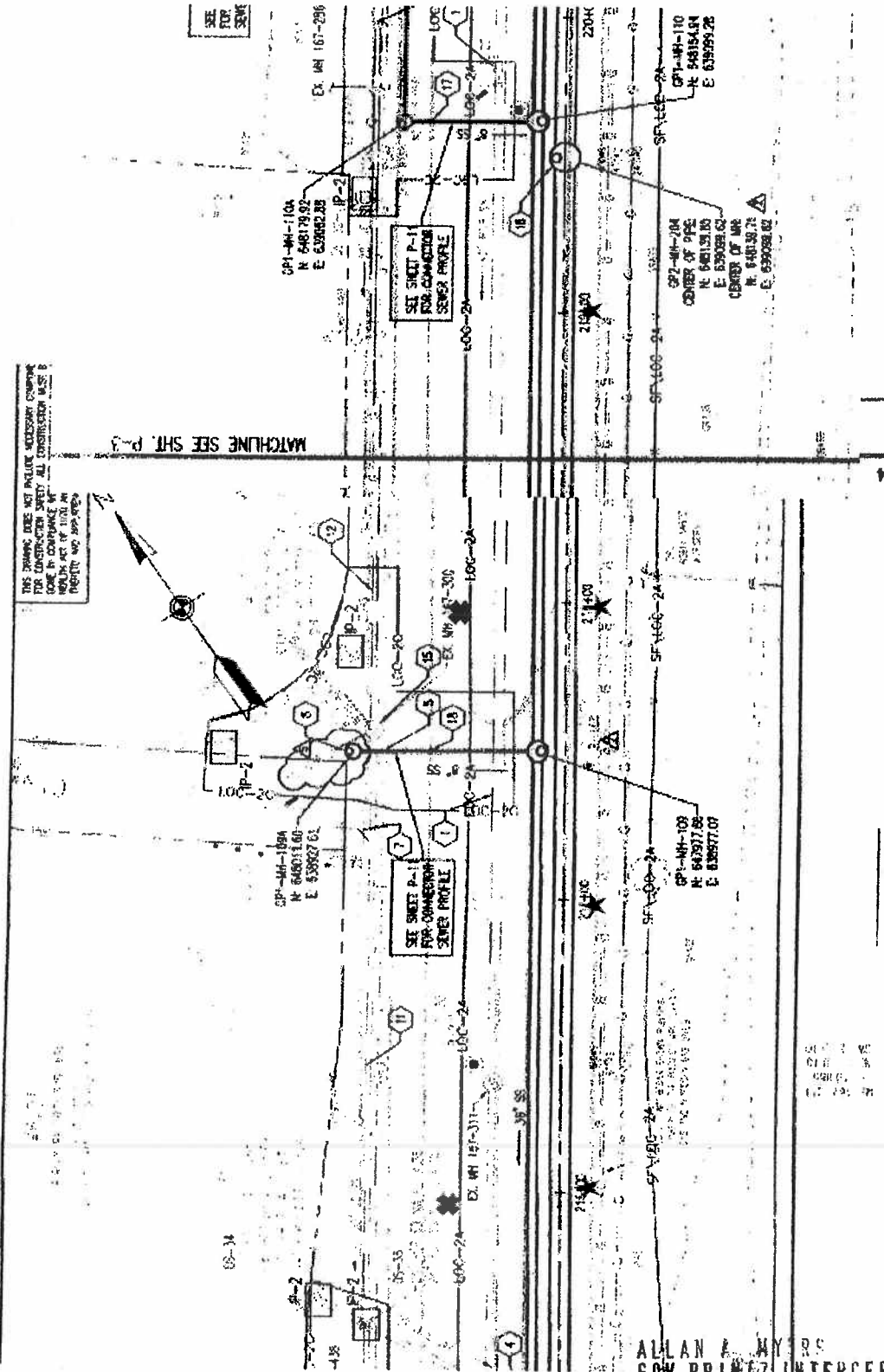


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REVIEWED BY. *[Signature]*

- ★ Sub - Surface Settlement Markers
- ✱ Surface Settlement Markers
- ▲ Deep Cased Benchmark



- ★ Sub - Surface Settlement Markers
- ◆ Surface Settlement Markers



ALLAN A. MYERS
 604. PRINTZ INTERCEPTOR
 CONTRACT 2010-01
 REFERENCED SPEC. 02/140
 REVIEWED BY *AL*

MAIL TO:

WATER SUPPLY SECTION
DIVISION OF WATER RESOURCES
89 KINGS HIGHWAY
DOVER, DELAWARE 19901

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL

http://www.dnrec.state.de.us/

WELL COMPLETION REPORT
MUST BE RETURNED WITHIN 30
DAYS OF CONSTRUCTION. A
WELL FORMATION LOG MUST BE
INCLUDED WITH THIS REPORT.

PHONE: 302-739-9944
FAX: 302-739-7764

WELL COMPLETION REPORT

-Authorization Number-

ILLEGIBLE OR INCOMPLETE FORMS WILL BE RETURNED

PLEASE PRINT OR TYPE - USE BLUE OR BLACK INK ONLY

WELL CONSTRUCTION METHOD

Permit # _____ Local ID _____
Tax Map Parcel # _____
Property Owner _____
Water Well Contractor _____ WC Lic # _____
Well Driller in Charge during Construction _____

☐ Augered ☐ Bored ☐ Cable Tool
☐ Driven ☐ Jetted ☐ Air Rotary
☐ Mud Rotary ☐ Reverse ☐ Washed
☐ Other (Specify): _____
Total Depth of Excavation: _____
Construction Date: _____

CASING INSTALLATION:

INNER CASING

CASING TOP: _____
CASING BOTTOM: _____
CASING DIAMETER: _____
CASING MATERIAL: _____

OUTER CASING

(1) (2) (3)
CASING TOP: _____
CASING BOTTOM: _____
CASING DIAMETER: _____
CASING MATERIAL: _____

SCREEN INSTALLATION

SCREEN TOP: _____
SCREEN BOTTOM: _____
SCREEN DIAMETER: _____
SCREEN MATERIAL: _____
SCREEN SLOT SIZE: _____ / THOUSANDS
GRAVEL PACK SIZE: _____

Gravel Pack From: _____ ft. To: _____ ft.
Grout Type: ☐ Cement ☐ Bentonite Clay
☐ Other: _____ From: _____ ft. To: _____ ft.
Type of Non-Cement backfill of Well Annulus: _____
From: _____ To: _____
Static Water Level: _____ ft. ☐ Below OR ☐ Above Ground Surface
On (date): _____
Pumping Water Level: _____ ft. On (date): _____
After _____ hrs. Pumping at: _____ GPM
Was a Geophysical Log Taken? ☐ YES ☐ NO

WELL HEAD COMPLETION:

Type: ☐ Plugless Adapter ☐ Standard "T"
☐ Well Pit ☐ Pad Mount
☐ Other - Specify: _____
Well Head Completed: _____ inches ☐ Above (OR) ☐ Below Ground Surface
Was the Well Tag attached in accordance with current regulations?
☐ YES ☐ NO If "NO", Please Explain: _____

Site Plan - Include lot size and dimensions, distances from well to house, property lines, nearest road, and all nearby septic systems (include suitable plot plan if available). (If different from original application)

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GOV. PRINTZ INTERCEPTOR
CONTRACT 2010-01
REFERENCED SPEC. 62140
REVIEWED BY *[Signature]*

I HEREBY AFFIRM THE INFORMATION I HAVE SUBMITTED IS
ACCURATE AND CORRECT.

Signature - Well Driller in Charge of Well Construction

License #

Date

White - DNREC • Canary - Contractor • Pink - Owner

Doc No. 40-08/78/01/013 - EC 1

PBSM Monitoring Form

SSM Monitoring Form

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American Infrastructure

GOVERNOR PRINTZ INTERCEPTOR - Section I

DAILY LOG - MAJOR EXCAVATIONS

DETAILED DESCRIPTION OF EXCAVATION

Depth of Excavation: _____

Shoring Used Today _____

Time of Movement of Shoring System _____

Unusual Events i.e excessive ground loss through excavation support, boulders, groundwater flow, or instability:

Location and Elevation of Soil Strata

Strata #1 _____

Strata #2 _____

Strata #3 _____

Strata #4 _____

Strata #5 _____

Construction loading in the vicinity of Instrumentation within 100 ft of Excavation

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CONTRACT 2010-01
REFERENCED SPEC 021140
REVIEWED BY 